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ABSTRACT

An inter-university network of computer centers, the "Because It's Time NETwork" (BITNET), is described. Specific guidelines and format requirements for using BITNET, with sample commands, are presented. More than 1,800 computers at over 600 institutions of higher education and research centers in Europe, Asia, and North America are linked in this "store-and-forward" network. Users must have access to a main-frame computer located in a BITNET member institution. Users share information via real-time terminal messages and electronic mail. Other applications of BITNET include document transfer, program sharing, data exchange, and access to BITNET data services. Four maps of regional BITNET nodes in the United States and other parts of the world are included. (SLD)

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USING AN INTER-UNIVERSITY NETWORK FOR RESEARCH

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USING AN INTER-UNIVERSITY NETWORK FOR RESEARCH

A POSTER SESSION AT MSERA/1987 - MOBILE, ALABAMA

Pettibone and Roddy

BITNET is an inter-university network of computer centers located at over 600 institutions world wide. Information regarding the technical aspects and historical background of BITNET is included in the attached handouts and will not be repeated here. What we want to do with this particular handout is to give you an idea as to some of the research related applications of BITNET.

One of the nicest features of BITNET is that it is essentially free. Actually, you shouldn't fall for that one - nothing is for free. As a potential user, though, you will not experience any additional cost for the use of the BITNET network. True, you will have to pay the customary local connect and computer time charges that you normally do when using your institution's main-frame computer. The member institutions pay for the high-speed leased telephone lines used to connect the other institutions. There has been some recent talk about instituting some user fees but none have appeared yet.

What does it take to use BITNET? First, you must have some sort of access to a main-frame computer that is located at a member institution. Look at the map titled "Bitnet Nodes in the MSERA Area". See the little diamonds? Each represents a member institution. Unfortunately, not all of the higher education institutions in our region are members of BITNET. Look at Mississippi and Arkansas for instance. There are no nodes there at all. Actually, researchers at institutions in those states (and at non-member institutions in other states) could access BITNET by having an account at a member institution and dialing in long distance using a telephone connection. Unfortunately that isn't always possible and it does add on the costs of long distance charges.

Next, you will need either a terminal or a personal computer that can emulate a terminal. One of us uses an IBM/PC and the other a MacIntosh, both along with appropriate software. At Tennessee, some really good software is provided free of charge by the Computer Center under a license with the publisher. Other institutions have different versions of appropriate software or leave it up to the user to find and purchase his/her own.

So what can you do with BITNET? Here is a short list:

1. Real time terminal messages
2. Electronic mail
3. Document Transfer
4. Program sharing
5. Data exchange
6. Access to BITNET data services

```
**********************************************************************************
**                                                                              **
**  UU   UU  TTTTTT   CCCC    CCCC   **                                        **
**  UU   UU  TTTTTT  CCCCCC  CCCCCC  ** BITNET                                 **
**  UU   UU    TT    CC      CC      **                                        **
**  UUUUUU     TT    CCCCCC  CCCCCC  **                                        **
**   UUUU      TT     CCCC    CCCC   ** Form  U01-0570-2                       **
**                                    **                                      **
**********************************************************************************
**            The University of Tennessee Computing Center                      **
**********************************************************************************
```

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1.0 BITNET

BITNET (Because It's Time NETwork) is a network linking more than 1800 computers at over 600 institutions of higher education and research centers including over 100 in Europe (EARN), Canada (NetNorth), and Japan and the Far East. BITNET is a "store-and-forward" network; information originating at a given site is received by intermediate network sites and forwarded to its destination. BITNET users share information via real-time terminal messages and electronic mail; transfer of documents, programs, and data; and access to BITSERVE (the BITNET server machine) and its associated data services. UT, Knoxville; UT, Chattanooga; and UT, Memphis are members of BITNET.

BITNET is supported by the BITNET Network Support Center comprising the Network Information Center (BITNIC) at EDUCOM and the Development and Operations Center (BITDOC) at City University of New York.

To facilitate the use of BITNET, institutions incorporate BITNET access into their local mail systems, providing a straightforward user interface. Much of the software used to interface to BITNET is readily available on a cooperative basis or commercially.

The computers in BITNET are interconnected by leased lines supporting 9600 bits per second data transmission. BITNET functions with both IBM and non-IBM computers that can communicate using IBM's VM-based RSCS (Remote Spooling Communications Subsystem) or one of several other IBM communications environments. Programs have been developed by both vendors and BITNET member institutions to provide BITNET access in DEC10/20, VAX/UNIX, VAX/VMS, CDC Cyber, and Sperry environments.

User support and information facilities available on BITNET include a general request mailbox (INFO@BITNIC), an on-line user directory, and a file server that provides help files, information about network nodes, protocol documents, network policy information, a newsletter, instructions for using network gateways, information about local software tools to facilitate BITNET use, and details about conferences of interest to the BITNET community.

BITNET continues to expand its membership and its facilities. Interconnecting BITNET with other networks has increased its potential for information exchange. Gateways already exist between BITNET and ARPANET, the network of the Defense Advanced Research Projects Agency; CSNET, a network of over 150 computer science research departments and institutions; MAILNET, EDUCOM's inter-institutional mail system; and UUCP, a UNIX-based dial-up network with over 1500 nodes world wide. Other gateways are in various stages of development. There is also a restricted access facility to VNET, IBM's internal communications network. See the section "Access to Other Networks" for more information on sending files to other networks.

For an up-to-date listing of BITNET nodes and universities, enter the following CMS command:

```
TYPE NODES INFO Y2
```

If you use XEDIT you can use the locate facility to do searches for particular information.

```
XEDIT NODES INFO Y2
```

On the VAXcluster this listing can be seen by entering:

```
type bitnet_nodes
```

If you use the EDT editor you can read the file and do searches for particular information. Just enter the following command on the VAXcluster:

```
ed/read bitnet_nodes
```

you can now use the EDT FIND and FNDNXT commands to search for a string.

1.1 Using BITNET on CMS

To use BITNET on CMS you need a valid VM/CMS account. In addition, to knowing how to send messages and files you will need to know the userid of the person with whom you want to communicate and the node name of the computer that the person is using, if different than your own. Presently, VM/CMS users at UTCC run on the same computer and have the same node name of UTKVM1.

You can access BITNET from any terminal which is logged on to CMS; however, the discussion below assumes the use of a full screen editor under CMS, using either an IBM 3270 terminal or an ASCII terminal that is logged on through the SERIES/1. For information about using the full screen features through the SERIES/1 see Full-Screen Editing for Televideo Users, form number U01-0542; Full-Screen Editing on CMS for VT100, VT220, VT240, IBM/PC, and Macintosh, form number U01-0543; or type HELP YALE MENU. Instructions for printing these documents are given in the section on "Other Documentation".

1.1.1 Sending Messages and Files

Three CMS commands are available to send information to another user on BITNET; the TELL command, the NOTE command, and the SENDFILE command.

The TELL Command

To send a short message to someone who is logged on to a computer in the network use the TELL command:

```
TELL userid AT node message
```

example:

```
TELL PA999998 AT UTKVM1 Hello!
```

The message will be displayed at the terminal where PA999998 is logged on. If PA999998 is not logged on when the message is sent or if a link in the network is down, then the message will be discarded by the system.

The "AT node" can be omitted when communicating with another VM/CMS user at UTCC or if the node is defined in a NAMES file (see below). For more information type HELP TELL.

The NOTE Command

To send a note to another person, use the NOTE command:

```
NOTE userid AT node
```

example:

NOTE PA999998 AT UTKVM1

The system will display a screen at your terminal which will include the note setup:

DATE: 7 March 1984, 11:40:19
FROM: PA999998 at UTKVM1
TO: PA999988 at UTKVM1

At this point you can add the text of your message by typing INPUT on the command line. The message can be edited in a manner similar to XEDIT. When finished, you can send your note by using the appropriate function key displayed on a menu on your screen or by typing SEND on the command line. To abort the message, type QQ on the command line. For more information type HELP NOTE.

The SENDFILE Command

To send files on BITNET to a user at another node on the network, use the command:

SENDFILE

A menu on your screen will ask you for the filename, filetype, and filemode of the file which you want to send. Fill in this information. Where it asks

SEND FILE TO:

type

userid AT node

of the person to whom the file is to be sent. For example:

SEND FILE TO: PA999998 AT UTKVM1

Use the function keys to send the file. If your terminal does not have function keys, instead of typing SENDFILE, type

SEND fn ft fm TO userid AT node

for example:

SEND PAPER SCRIPT A TO PA999998 AT UTKVM1

Both SENDFILE and NOTE place the file or the message in the reader of the person you specified.

The advantage to using SENDFILE and NOTE over using TELL is that the person to whom you are sending the message or file does not have to be logged on at the time you issue the command. In addition, if a node in the network is down at the time you issue the command, the message is not lost. It is stored at an intermediate node and forwarded whenever the link is reestablished. When using the TELL command, you may receive a message that the userid is not logged on or that a link is down. You can try the TELL command at a later time or send a NOTE instead.

The NAMES Command

Communicating using BITNET becomes even easier if you use the NAMES command to create a file containing the userid, node, and a nickname for each person with whom you communicate regularly. Then wherever you previously specified the userid and node name, you can simply type the nickname of the user. HELP NAMES tells how to create a names file.

1.1.2 Sending in Punched Card Image Format

SENDFILE normally transmits files in an encoded format. Some computers connected to BITNET are unable to decode the files into the original form. To facilitate the transmission of files to computers on BITNET which cannot decode the files, a PUNCH option has been added to SENDFILE which forces files to be sent in punched card image format.

The maximum line length of files sent in punched card image format is 80 characters. If you try to send a file with a line length greater than 80 characters, an error message will be printed, and the file will not be sent.

The syntax for using the PUNCH option is given below (enter the entire command on one line):

```
SENDFILE fn ft fm TO userid AT computer_id (PUNCH
```

For example, the University of Georgia's CDC CYBER 205/845 supercomputer complex cannot decode the normal format in which files are sent. To correctly transmit a file to this computer, the PUNCH option must be used.

To send the file SPACE CADET A2 to BUCKROGERS on the University of Georgia's CDC computer, the following command would work (enter the entire command on one line):

```
SENDFILE SPACE CADET A2 TO BUCKROGERS AT UGACDC1 (PUNCH
```

In this example, the computer_id is UGACDC1.

1.1.3 Receiving Messages and Files

Reader List

The READER LIST (RL) is a full screen facility that helps you manage mail and files that are sent to you. To invoke this facility type RL. Each line lists the FILENAME and FILETYPE of the file, who sent it (USERID), where it came from (NODE), and how many records are in the file. By placing the cursor on the line of the file you want to look at you can press PF11 (PEEK) to see it. If you press PF9 (RECEIVE) a disk file is created from the message and the file is removed from the reader. If you want to get rid of the file without making a disk copy use the DISCARD command. For more information about Reader List use the CMS help facility.

The RECEIVE command can also be issued on the command line without going into the Reader List.

```
RECEIVE spoolid fn ft fm
```

This command will move a file from your virtual reader to a disk file on your minidisk: where "spoolid" is the number of a file in your reader; the default is the next file in the reader. To see the characteristics of a file in your reader, type the following:

```
QUERY RDR
```

1.2 Using BITNET on the VAXcluster

To use BITNET on the VAXcluster you need a valid VAX/VMS account. In addition, to knowing how to send messages and files you will need to know the userid of the person with whom you want to communicate and the node name of the computer that the person is using, if different from your own. Presently, VAX/VMS users at UTCC run on the VAXcluster made up of nodes UTKVX1, UTKVX2, UTKVX3, and UTKVX4.

1.2.1 Sending Messages and Files

BITNET makes use of the MAIL, SEND, and RECEIVE utilities on the VAXcluster.

Using Mail

To invoke mail, enter MAIL at the $ prompt. You will then be prompted with MAIL>. For more information on MAIL commands type HELP after the MAIL> prompt.

If you want to send mail to a user on BITNET, use the gateway option after the TO: prompt and indicate the userid number and node. To send mail to someone with the userid PA6460 on the UTCC IBM/CMS system (UTKVM1), use the following format:

```
TO: bitnet%"pa6460@utkvm1"
```

To send mail to Jones at Vanderbilt University (VANDVMS1), use the following format:

```
TO: bitnet%"jones@vandvms1"
```

Mail can also be sent with a single command but requires triple ".

```
$ mail file.ext bitnet%"""user@node"""

$ mail thesis.dat bitnet%"""jones@vandvms1"""
```

Using Send

To send an interactive message use the SEND utility as shown below:

```
$ send jones@vandvms1 "Is the program done?"
```

To send a file to Jones at Vanderbilt University (VANDVMS1), use the SEND utility with the /FILE option as shown below:

```
$ send/file
_File: thesis.data
  _To: jones@vandvms1
```

For more information type HELP SEND on the VAXcluster.

Using Logical Names for User IDs

Aliases my be used for all or part of a destination address when sending messages, mail, or files. They are often used to associate a simple word with a complicated address, or to shorten the amount of typing necessary (and hence decrease the potential for error) when sending information to the same address repeatedly.

Use the following format to define aliases for use with the SEND and SEND/FILE commands:

```
$ DEFINE alias_name """username@nodename"""

$ DEFINE mike """mcguire@utkvx1"""
```

Users should always use the three sets of quotation marks. The advantage is that aliases defined in this way may also be used when sending VMSmail. The DEFINE command is only in effect for the current session.

Example:

```
MAIL> send
TO: bitnet%mike
```

Example:

```
$ send/file
_File: thesis.data
_To: mike
```

1.2.2 Receiving Messages and Files

Using Mail

BITNET files that are sent with CLASS=M will appear on the VAXcluster as normal MAIL messages which can be read, stored, and replied to. Messages generated using VMS MAIL will have a CLASS=17.

To receive mail that has been sent to you type MAIL after the $ prompt. After the MAIL> prompt press the return key and all new mail will be displayed on your terminal.

Using Receive

Files sent with CLASS other than M will show up in the RECEIVE directory. Files sent using SEND/FILE appear in the RECEIVE directory by default. If you have been sent a file by someone you will be prompted by the system to use the RECEIVE utility. If you type RECEIVE after the $ prompt you will get a listing of all your files in the RECEIVE directory and the RECEIVE> prompt. Then enter RECEIVE * to have all the files you have been sent copied to your directory. For more information type HELP RECEIVE on the VAXcluster or type HELP at the RECEIVE> prompt.

1.3 More Information on BITNET

1.3.1 BITNET Short Course

Two short courses, Introduction to CMS MAIL and BITNET and Introduction to VAX MAIL and BITNET are offered each quarter through UTCC. Check the online short course schedule on CMS (COURSES) or the VAX (short_courses) or call UTCC (974-6831) for more information.

1.3.2 Other Documentation

The commands TELL, NOTE, SENDFILE, RECEIVE, and NAMES are documented more thoroughly in an article entitled Mail on CMS in the August 1983

issue of the UTCC Newsletter. Reprints of this article are available from the UTCC receptionist at 200 SMC.

U01's, such as U01-0543 "Full-Screen Editing on CMS for VT100, VT220, VT240, IBM/PC, and Macintosh", can be obtained from the VAXcluster or CMS using PRTDOC. For example when logged on

```
PRTDOC 543
```

will print one copy of U01-0543. For more information type HELP PRTDOC.

2.0 BITSERVE

The server machine, BITSERVE, has been developed at CUNY/UCC (node CUNYVM) to perform a number of services of general use to the BITNET community. BITSERVE gives the user access to two kinds of files: its own CMS files and files designed for BITSERVE IN A VSAM DATABASE.

Additional information about BITNET can be obtained directly from BITSERVE at CUNYVM. The following assumes you have added BIT as a nickname for BITSERVE at CUNYVM in your names file; see the section "Finding Someone on BITNET" for more information. Additional information can be obtained directly from BITNET. The following information files are available:

Filename	Filetype
BITSERVE	COMMANDS
BITSERVE	FILES
BITSERVE	USER
BITSERVE	INFO

On CMS use the following command:

```
TELL BIT SENDME filename filetype
```

On the VAXcluster use the following:

```
SEND BITSERVE@CUNYVM SENDME filename filetype
```

2.1 Registering on BITSERVE

If you are a CMS or VAX user it is easy for you to add your name to a data base of worldwide BITNET users. Note: You do NOT have to register to use BITNET. Your registration is voluntary and makes it easier for others to find you.

Registering on the BITSERVE User Directory makes it easier for BITNET members to find each other or to correspond with others about their research or teaching interests.

2.1.1 How to Register

To register, you must create a special file using your editor of choice on the VAX or CMS and then send that file to BITSERVE. Examples are shown below.

The format of the file is the same for both CMS and VAX users. Information starts in column one of each line. Enter the word ADD on line one. Enter the letter H on line two. Enter the letter T on line three, followed with your name, userid, nodename, and telephone number.

The next several lines, all starting with the letter T, should contain your mailing address. Following this is the keyword line. Enter the letter K and several keywords that may help others find you. You can have as many keyword lines as you need. Just make sure you put a K in the first column and that all keywords are in UPPER CASE. Examples are your name, userid, department, area of research, state, node name. The next line is left blank. Enter $EOM on the last line.

Example of Registration File on CMS

```
ADD
H
T Bruce Delaney (PA6460 @ UTKVM1) 615-974-6831
T Manager of User Services
T University of Tennessee Computing Center - UTCC
T 200 Stokely Management Center
T Knoxville, TN 37996-0520
K BRUCE DELANEY PA6460 UTKVM1 UTCC UNT TENNESSEE TN UTK

$EOM
```

Example of Registration File on the VAX

```
ADD
H
T Bruce Delaney (DELANEY @ UTKVX1) 615-974-6831
T Manager of User Services
T University of Tennessee Computing Center - UTCC
T 200 Stokely Management Center
T Knoxville, TN 37996-0520
K BRUCE DELANEY PA6460 UTKVX1 UTCC UNT TENNESSEE TN UTK

$EOM
```

After you have set up this file, send it to BITSERVE using the following directions. Use the filename and filetype of the file you have just created.

For CMS Users

```
SPOOL PUNCH TO RSCS CLASS B
TAG DEV PUNCH CUNYVM BITSERVE
PUNCH filename filetype
```

For VAX Users

```
SEND/FILE/CLASS=B filename.filetype BITSERVE@CUNYVM
```

After you have sent the file, a message will come back telling you that you have been registered and showing your entry number on BITNET, for example:

ENTRY:U002294 ADDED TO USER DIRECTORY

2.2 Finding Someone on BITSERVE

Suppose you want to send information, using the BITNET electronic mail system, to someone you met at a conference. However, you don't quite remember the person's name. Or maybe you remember the name, but don't know how to spell it. Or you know the name, but don't know the person's userid.

With a little detective work, you can find out the necessary information on the BITSERVE User Directory. The SEARCH command on BITNET helps you find registered users based on the keywords they thought people would use to find them.

CMS users: If you have not already done so, add BIT as the nickname for BITSERVE to your names file, using the command

```
NAMES BIT
```

When the names file appears on the screen, type BITSERVE in the userid field and CUNYVM in the node field. Press PF2 to add the new information to the file and PF3 to quit the file.

2.2.1 Using the Search Command

Suppose you want to find someone whose name you can't remember. You do know the person is a math professor at UTK, for example. You would issue the following command (BIT is the CMS nickname for BITSERVE that you have stored in your names file; U is the user data base).

For CMS users:

```
TELL BIT SEARCH U MATH
```

For VAX users:

```
SEND BITSERVE@CUNYVM
  CUNYVM(BITSERVE): SEARCH U MATH
  CUNYVM(BITSERVE):
```

This command would give you information on the first ten registered BITNET users who have used "math" as a keyword. However, there are more than ten users with math as a keyword. So, you would also be told that, for a file of all who have used math as a keyword (up to 100), use the SEARCHF command in place of the SEARCH command.

(VAX users: Note that you will continue to get the CUNYVM(BITSERVE): prompt, indicating it is waiting for another BITSERVE command. To end the prompt, press RETURN.)

2.2.2 Narrowing down the choices

You could narrow down the choices in your search by using the "and" (&) condition and adding another possible keyword. (You can search for up to 18 keywords.) For instance, you could search for users who have both the keywords "math" and "UTK."

For CMS users:

```
TELL BIT SEARCH U MATH & UTK
```

For VAX users:
(enter after the CUNYVM(BITSERVE) prompt)

```
SEARCH U MATH & UTK
```

Now you will get a list of only those users who have both keywords, math and UTK.

In addition to the & condition, there is also a "not" (¬) condition and an "or" (|) condition that can be used to help in the search. (The ¬ symbol is denoted as the carat symbol on some terminals; it is typically found on the shift 6 key.)

For CMS users:

```
TELL BIT SEARCH U MATH ¬ VAX
  (find math, reject if VAX)


TELL BIT SEARCH U UTKVX1 | UTKVM1
  (find either UTKVX1 or UTKVM1)
```

For VAX users:
(enter after the CUNYVM(BITSERVE) prompt)

```
SEARCH U MATH ¬ VAX
  (find MATH, reject if VAX)

SEARCH U UTKVX1 | UTKVM1
  (find either UTKVX1 or UTKVM1)
```

If you don't place an &, ¬, or | between keywords in a search, it will assume the "or" (|) condition.

You can also use the wildcard (*) command after the first letter of a keyword. For example, the following would find any keyword starting with "them."

For CMS users:

```
TELL BIT SEARCH U CHEM*
```

For VAX users: (enter after the CUNYVM(BITSERVE) prompt)

```
SEARCH U CHEM*
```

2.2.3 Receiving the information

The output from the search will contain the following information: the user entry number, user name, userid, @, nodename, and telephone number. Shown below are examples of the information for a UTCC CMS user and a UTCC VAX user.

CMS: U000696(BRUCE DELANEY(PA6460@UTKVM1)615-974-6831)

VAX: U002294(BRUCE DELANEY(DELANEY@UTKVX1)615-974-6831)

To see all the information listed in the directory about this person, use the GET command with the user entry number.

For CMS users:

```
TELL BIT GET U000696
```

Sample Directory Listing For a UTCC CMS User

```
(CUNYVM)BITSERVE - H U000696 ENTRY FOR PA6460 @ UTKVM1 ADDED BY
  PA6460 ON 02/15/84
(CUNYVM)BITSERVE - T Bruce Delaney (PA6460 @ UTKVM1) 615-974-6831
(CUNYVM)BITSERVE - T Manager of User Services
(CUNYVM)BITSERVE - T University of Tennessee Computing Center - UTCC
(CUNYVM)BITSERVE - T 200 Stokely Management Center
(CUNYVM)BITSERVE - T Knoxville, TN 37996-0520
```

For VAX users:
(enter after the CUNYVM(BITSERVE) prompt)

```
GET U002294
```

Sample Directory Listing For a UTCC VAX User

```
(CUNYVM)BITSERVE - H U002294 ENTRY FOR DELANEY @ UTKVX1 ADDED BY
  DELANEY ON 05/21/85
(CUNYVM)BITSERVE - T Bruce Delaney (DELANEY @ UTKVX1) 615-974-6831
(CUNYVM)BITSERVE - T Manager of User Services
(CUNYVM)BITSERVE - T University of Tennessee Computing Center - UTCC
(CUNYVM)BITSERVE - T 200 Stokely Management Center
(CUNYVM)BITSERVE - T Knoxville, TN 37996-0520
```

3.0 Access to Other Networks

3.1 CMS SENDFILE

Enhancements have been added to the SENDFILE command on the CMS operating system to facilitate the transmission of files and electronic mail from UTCC CMS users to users both on BITNET and on other national and international networks.

The SENDFILE command on CMS previously allowed users to send files or electronic mail to other CMS users at UT or to users connected to BITNET. However, in addition to BITNET, there are other computer networks, such as the Computer Science Research Network (CSNET), the UNIX Network (UUCP), and local area networks at other universities. Many of these networks have "gateways" to BITNET which allow the transfer of files and electronic mail between BITNET and the other network.

For a complete listing of the networks accessible using SENDFILE, log on to VM/CMS and issue the following command:

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TYPE GATEWAYS INFO Y2
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3.1.1 Sending Files to Other Networks from CMS

To send files to users on networks other than BITNET, the address of the receiving user must contain at least one period and identifiers specifying the destination computer and network.

The syntax for sending a file to a user on another network is as follows (enter the entire command on one line).

SENDFILE fn ft fm TO userid AT computer_id.network_id

The network_id field specifies which network the receiving computer is on, and the computer_id field specifies which computer on that network the receiving user is on.

For example, to send the file NEW JOKES A1 to user MONTYPYTHON at computer HUMOR on the United Kingdom University/Research Network, use the following command (enter the entire command on one line):

SENDFILE NEW JOKES A1 TO MONTYPYTHON AT HUMOR.AC.UK

In this example, the computer_id is HUMOR, and the network_id is AC.UK.

If SENDFILE does not recognize the network_id specified by the user, an error message will be printed, and the file will not be sent. The maximum line length of files sent to other networks is 80 characters. If you try to send a file with a line length greater than 80 characters, an error message will be printed, and the file will not be sent.

Multiple files may be sent to another network with a single SENDFILE command using the FILELIST option of SENDFILE. Type HELP SENDFILE for more information.

3.1.2 Sending Notes to Other Networks from CMS

To send a note to a user on another network, use the NOTE command on CMS. The NOTE command calls SENDFILE, so the address of the receiving user on the other network must be specified in the same way as the addresses for SENDFILE.

Note: Currently, UTCC does not support a method for putting the long addresses of users on other networks into your NAMES file. This means that each time you send a file or note to a user on another network, you must type the complete address, instead of merely typing a nickname.

The syntax for sending a note to a user on another network is:

NOTE userid AT computer_id.network_id

As with SENDFILE, the network_id field specifies which network the receiving computer is on, and the computer_id field specifies which computer on that network the receiving user is on.

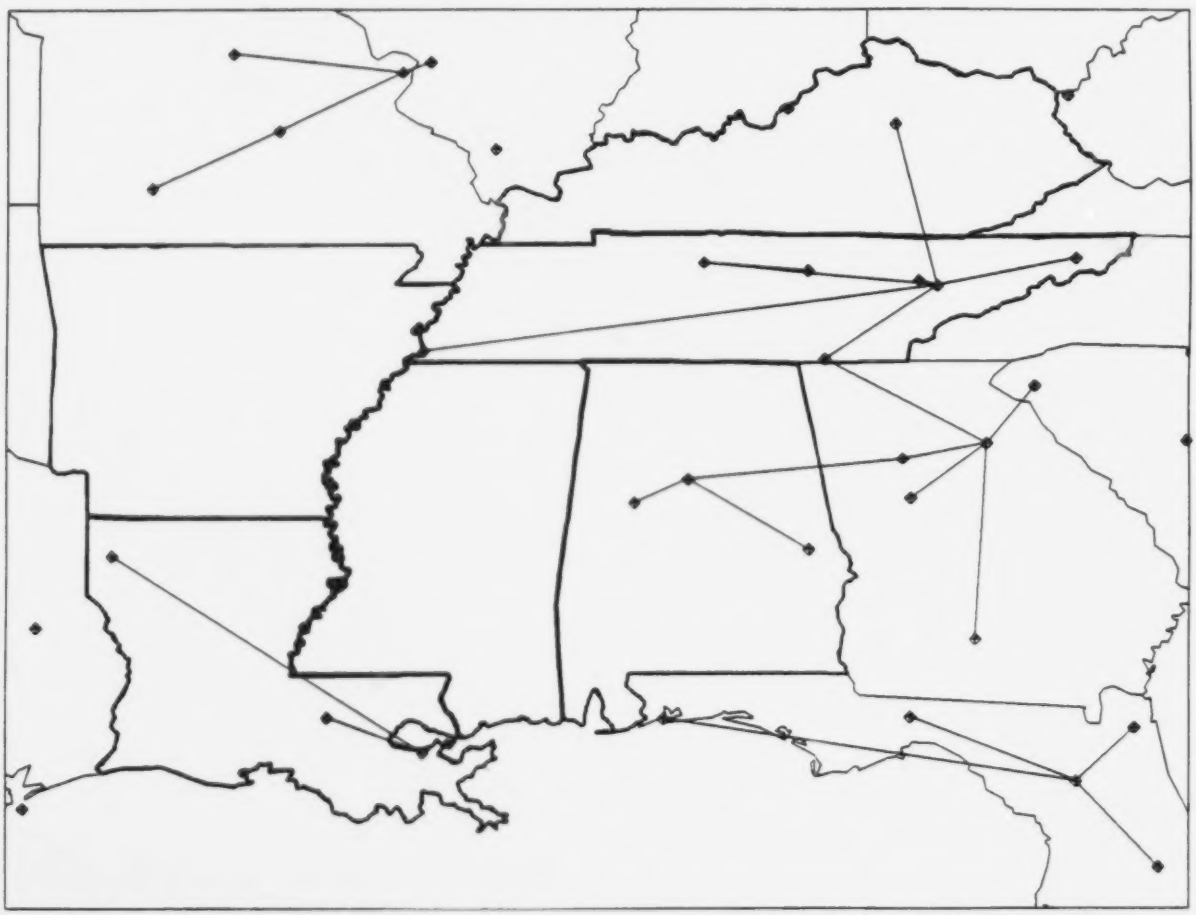
For example, to send a note to user MONTYPYTHON at computer HUMOR on the United Kingdom University/Research Network, use the following command:

NOTE MONTYPYTHON AT HUMOR.AC.UK

As with the SENDFILE command, the computer_id field is HUMOR and the network_id field is AC.UK.

Note: If the LONG option of the NOTE command is used to create a note to a user on another network, the note will not be delivered to the receiving user. This occurs because the receiving computer address field in the long-format note header is limited to eight characters. Also, the line length restrictions which apply to files sent to users on other networks also apply to notes.

Bitnet Nodes in the MSERA Area



As of: September 10, 1987

Prepared by Craig Pepmiller
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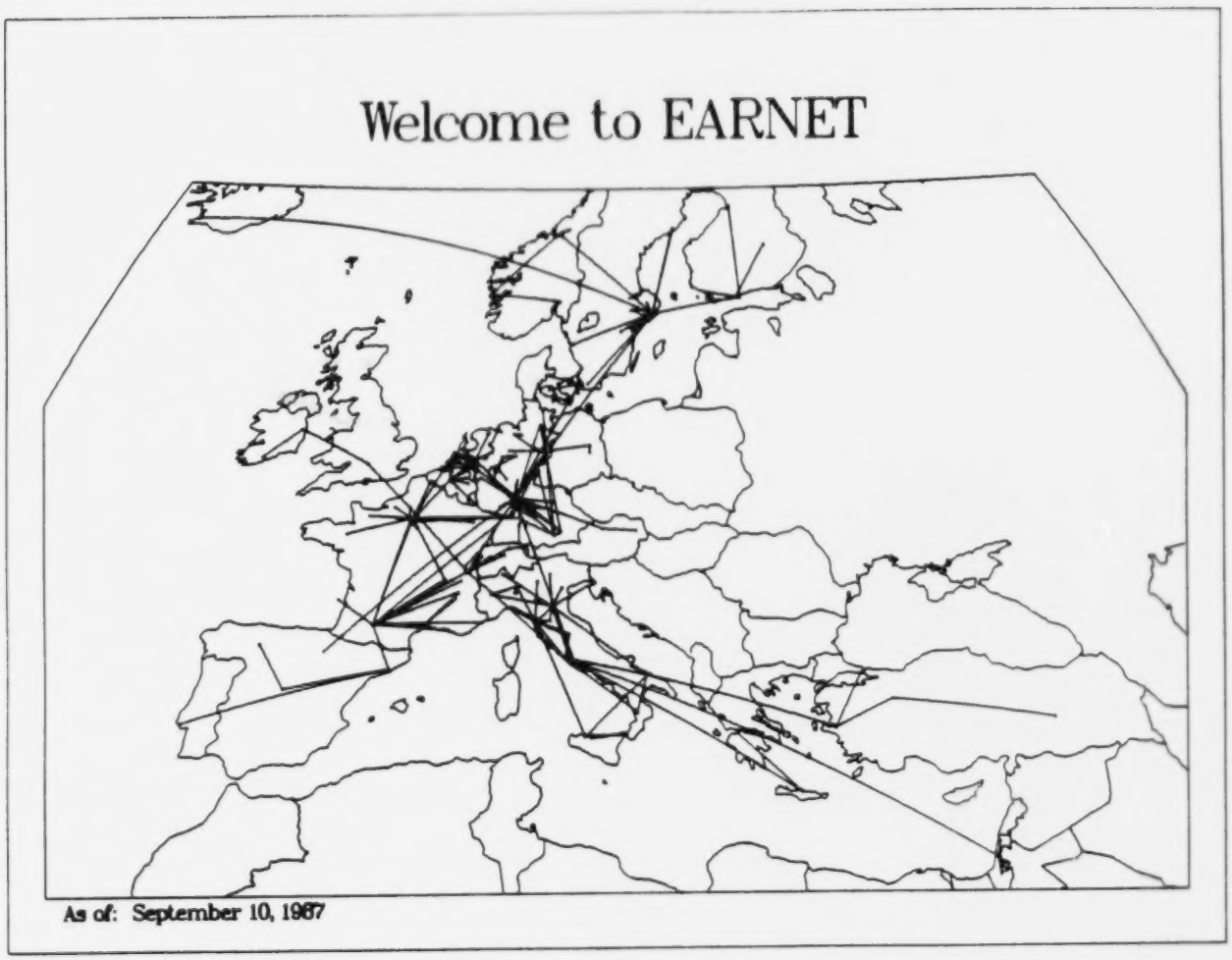
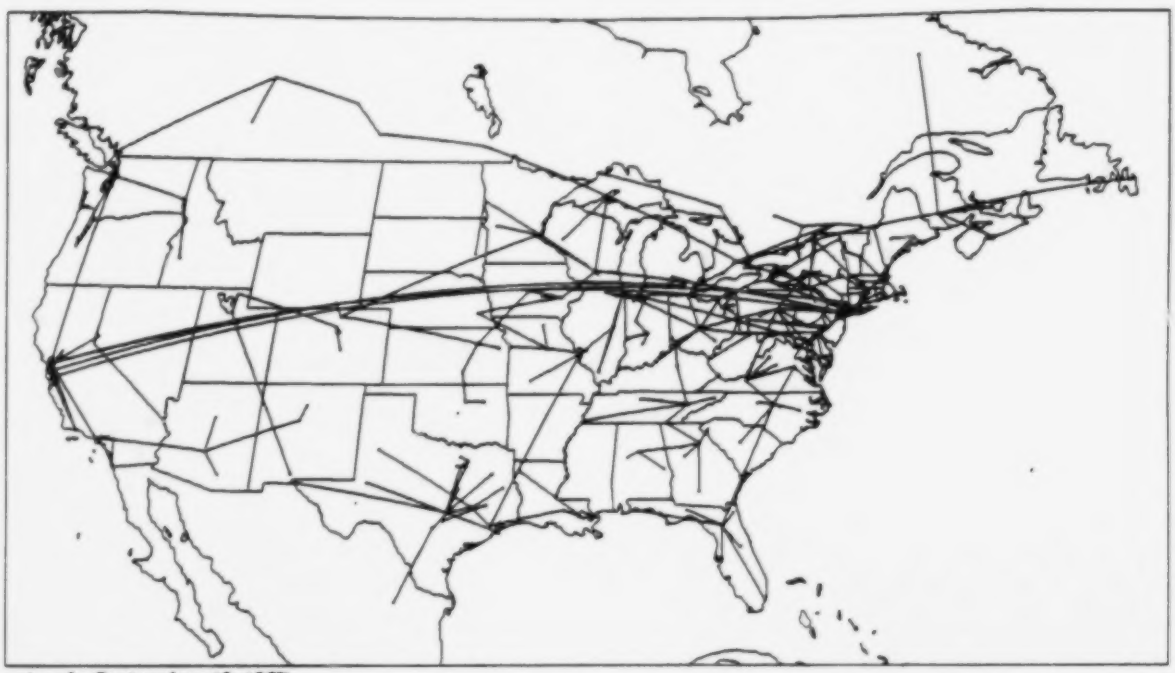
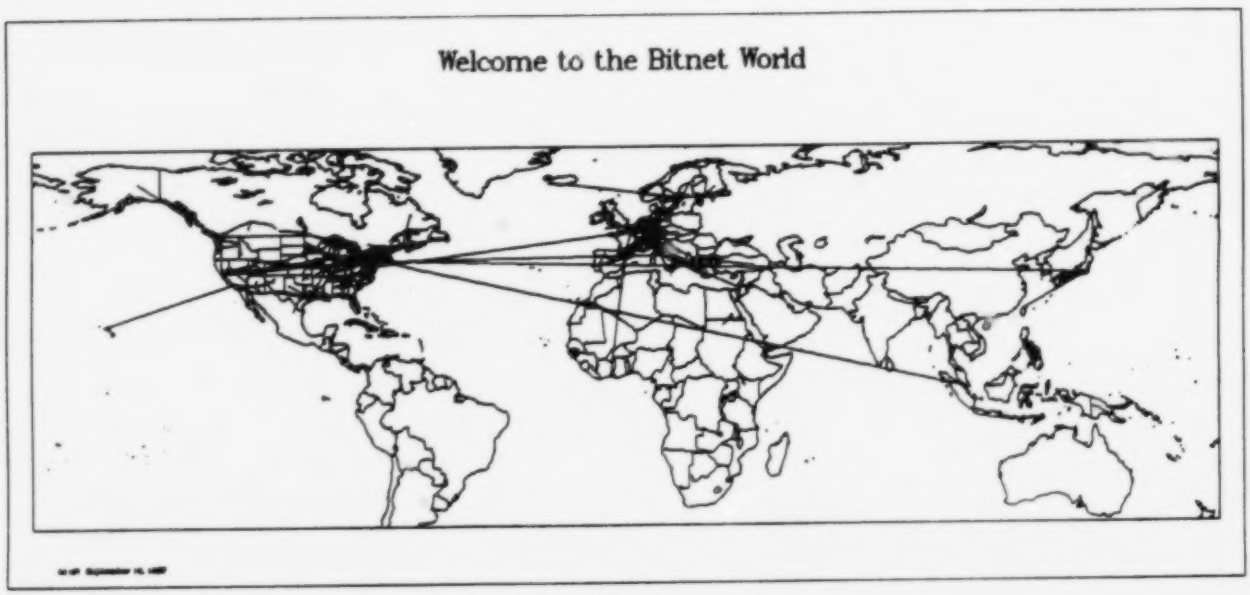

Welcome to EARNET
As of: September 10, 1987

Welcome to Bitnet--USA and North America



As of: September 10, 1987


Welcome to the Bitnet World